Future Flight Design			
2006 Science Revised January 2008			
State Curriculum			
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Grade 5			
Activity/Lesson	**State**	**Standards**	
Air Transportation Problem	MD	SCI.5.1.C.1.a	Make use of and analyze models, such as tables and graphs to summarize and interpret data.
Air Transportation Problem	MD	SCI.5.1.C.1.c	Submit work to the critique of others which involves discussing findings, posing questions, and challenging statements to clarify ideas.
Air Transportation Problem	MD	SCI.5.1.C.1.d	Construct and share reasonable explanations for questions asked.
Air Transportation Problem	MD	SCI.5.1.D1.A.c	Identify factors that must be considered in any technological design—cost, safety, environmental impact, and what will happen if the solution fails.
Aircraft Design Problem	MD	SCI.5.1.D1.A.b	Realize that there is no perfect design and that usually some features have to be sacrificed to get others, for example, designs that are best in one respect (safety or ease of use) may be inferior in other ways (cost or appearance).
Aircraft Design Problem	MD	SCI.5.1.D1.A.c	Identify factors that must be considered in any technological design—cost, safety, environmental impact, and what will happen if the solution fails.
Aircraft Design Problem	MD	SCI.5.1.D1.B.a	Realize that in something that consists of many parts, the parts usually influence one another.
Aircraft Design Problem	MD	SCI.5.5.A.2.b	Observe and explain the changes in selected motion patterns using the relationship between force and mass.
Future Flight Design			
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Grade 6			
Activity/Lesson	**State**	**Standards**	
Air Transportation Problem	MD	SCI.6.1.A.1.h	Use mathematics to interpret and communicate data.
Air Transportation Problem	MD	SCI.6.1.B.1.a	Verify the idea that there is no fixed set of steps all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.

Air Transportation Problem	MD	SCI.6.1.C.1.f	Participate in group discussions on scientific topics by restating or summarizing accurately what others have said, asking for clarification or elaboration, and expressing alternative positions.
Air Transportation Problem	MD	SCI.6.4.C.1.c	Analyze data gathered and formulate a conclusion on the effects of temperature change on most substances.
Aircraft Design Problem	MD	SCI.6.1.D1.A.b	Demonstrate that all control systems have inputs, outputs, and feedback.
Aircraft Design Problem	MD	SCI.6.1.D1.A.d	Identify reasons that systems fail—they have faulty or poorly matched parts, are used in ways that exceed what was intended by the design, or were poorly designed to begin with.
Aircraft Design Problem	MD	SCI.6.1.D1.B.a	Provide evidence that a system can include processes as well as things.
Aircraft Design Problem	MD	SCI.6.1.D1.B.c	Analyze any system to determine its connection, both internally and externally to other systems and explain that a system may be thought of as containing subsystems and as being a subsystem of a larger system.
Future Flight Design			
2006 Science Revised January 2008			
State Curriculum			
Maryland Science Revised January 2008			
Grade 7			
Activity/Lesson	**State**	**Standards**	
Air Transportation Problem	MD	SCI.7.1.A.1.h	Use mathematics to interpret and communicate data.
Air Transportation Problem	MD	SCI.7.1.B.1.a	Verify the idea that there is no fixed set of steps all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.
Air Transportation Problem	MD	SCI.7.1.C.1.f	Participate in group discussions on scientific topics by restating or summarizing accurately what others have said, asking for clarification or elaboration, and expressing alternative positions.
Aircraft Design Problem	MD	SCI.7.1.D1.A.b	Demonstrate that all control systems have inputs, outputs, and feedback.

Aircraft Design Problem	MD	SCI.7.1.D1.A.c	Realize that design usually requires taking constraints into account. (Some constraints, such as gravity or the properties of the materials to be used, are unavoidable. Other constraints, including economic, political, social, ethical, and aesthetic ones also limit choices.)
Aircraft Design Problem	MD	SCI.7.1.D1.A.d	Identify reasons that systems fail—they have faulty or poorly matched parts, are used in ways that exceed what was intended by the design, or were poorly designed to begin with.
Aircraft Design Problem	MD	SCI.7.1.D1.B.c	Analyze any system to determine its connection, both internally and externally to other systems and explain that a system may be thought of as containing subsystems and as being a subsystem of a larger system.
Future Flight Design			
2006 Science Revised January 2008			
State Curriculum			
Maryland Science Revised January 2008			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Air Transportation Problem	MD	SCI.8.1.A.1.h	Use mathematics to interpret and communicate data.
Air Transportation Problem	MD	SCI.8.1.B.1.a	Verify the idea that there is no fixed set of steps all scientists follow, scientific investigations usually involve the collection of relevant evidence, the use of logical reasoning, and the application of imagination in devising hypotheses and explanations to make sense of the collected evidence.
Air Transportation Problem	MD	SCI.8.1.C.1.f	Participate in group discussions on scientific topics by restating or summarizing accurately what others have said, asking for clarification or elaboration, and expressing alternative positions.
Aircraft Design Problem	MD	SCI.8.1.D1.A.b	Demonstrate that all control systems have inputs, outputs, and feedback.
Aircraft Design Problem	MD	SCI.8.1.D1.A.c	Realize that design usually requires taking constraints into account. (Some constraints, such as gravity or the properties of the materials to be used, are unavoidable. Other constraints, including economic, political, social, ethical, and aesthetic ones also limit choices.)

Aircraft Design Problem	MD	SCI.8.1.D1.A.d	Identify reasons that systems fail—they have faulty or poorly matched parts, are used in ways that exceed what was intended by the design, or were poorly designed to begin with.
Aircraft Design Problem	MD	SCI.8.5.A.2.b	Demonstrate and explain, through a variety of examples, that moving objects will stay in motion at the same speed and in the same direction unless acted on by an unbalanced force.
Aircraft Design Problem	MD	SCI.8.5.A.2.c	Investigate and collect data from multiple trials, about the motion that explain the motion that results when the same force acts on objects of different mass; and when different amounts of force act on objects of the same mass.